DC Fire & EMS Special Operations:
Cyanide Antidote Package

Note Well: *The DC Fire and EMS Department has recently obtained cyanide kits. These are to be placed on the Haz-Mat unit. This guideline is to be used for known or strongly suspected cyanide poisonings. Please note that this guideline is different from the smoke inhalation protocol.*

I. Background

1. Cyanide is a cellular toxin; it halts respiration at the cellular level. Cyanide poisoning may be encountered in industrial areas such as electroplating facilities and metal refining facilities. It may be found in photography studios both large scale and private dark rooms. Cyanide may also be found in university laboratory facilities. This may be a common method of suicide attempt in those who have access to the substance, such as laboratory workers and chemists.

II. The Cyanide Kit

1. The kit contains the following
   - A. 12 Amyl Nitrate Inhalant.
   - B. 2 10-ml ampules of 3% Sodium Nitrate solution.
   - C. 2 50 ml vials of 25% Sodium Thiosulfate.
   - D. 1 Sterile 10 ml syringe with needle.
   - E. 1 Sterile 60 ml syringe.
   - F. 1 20 gauge needle.
   - G. 1 Stomach tube.
   - H. 1 Non-sterile 60 cc syringe.
   - I. 1 tourniquet.

III. Scene Size-up

1. As with any situation the first priority is personal safety. Scene size up, personal protective equipment and decontamination are necessary.

2. Avoid contact with vomitus.

IV. All Provider Levels

1. Remove the patient to a non-contaminated area.
2. Refer to the Patient Care Protocols.
3. Administer Oxygen at 100% via non-rebreather mask.

V. Advanced Life Support Providers

1. Institute standard ALS measures as indicated.

> ***Note Well:*** *Known cyanide ingestion (i.e. and unconscious individual near an open cyanide container in an apparent suicide attempt)* ***does not require Medical Control or Medical Director contact for use of the kit.*** *In instances where cyanide poisoning is suspected, contact the medical control hospital, or the medical director for on line medical direction.*

2. Cyanide Antidote

   A. Step 1: Amyl Nitrate Inhalant ampules.

> ***Note Well:*** *This is a temporizing measure until IV access can be obtained. If an IV is already in place, go directly to Letter B - Step 2.*

   i. Use Amyl Nitrate Inhalant ampules one at a time.

   ii. Break the Amyl Nitrate Inhalant into a gauze sponge, handkerchief or stack of 4x4's.

   iii. Have the patient inhale the fumes by holding the gauze in front of the patients nose and mouth, 15 seconds on 15 seconds off.

VI. Advanced Life Support Providers (continued)

iiii. If the patient is not breathing, initiate advanced airway management with Combi-tube.

> ***Note Well:*** *EMT-I and EMT-P should use ET intubation.*

v. The Amyl Nitrate soaked gauze can be placed in the reservoir bag and the patient ventilated either with bag and mask or bag and endotrachal tube (or Combitube).

vi. Obtain IV Access concurrently.

B. Step 2: 3% Sodium Nitrate Solution.

i. In an Adult, inject 10 cc of the Sodium Nitrate Solution over 2 to 4 minutes.

ii. The Sodium nitrate may be diluted into 100 to 150 cc of normal saline and infused over 2 to 4 minutes.

C. Step 3: 25% Sodium Thiosulfate.

i. Administer 50 cc of the Sodium Thiosulfate solution IV.

D. Step 4: Continue monitoring and transport.

3. Frequently monitor blood pressure as the nitrates may cause the blood pressure to drop.

4. Consider fluid boluses.

VII. Transport Decision

1. Transport to the nearest appropriate receiving facility.

2. Notify the receiving facility of incoming patient.

VIII. The Following Options are Available by Medical Control Only

1. Dopamine infusion of 5 - 20 ug/kg/min if necessary for support of blood pressure.